Green data centers

CONTRIBUTING TO A HEALTHY BOTTOM LINE AND ENVIRONMENT

With more than 35 years of experience in managing secure and efficient data centers, CGI is committed to providing clients with a global network of cost effective, innovative and energy efficient infrastructure services centers.

Infrastructure management is our business

CLOUD COMPUTING SERVICES

As CIOs strive for cost effectiveness and speed of delivery, CGI's cloud computing environment provides both infrastructure and software as a service. This means that server environments and application software are available, on demand, for as long or as little as needed. CGI's cloud computing services are not an either-or proposition, but rather enable the flexibility, speed, scalability and efficiency required to deliver unique business solutions. For more information, visit cgi.com/cloud.

Managing and enabling growth is among the top priorities of executives today. To meet this priority, IT organizations must create reliable, secure and cost-effective infrastructures that enable business innovation. For organizations seeking to transform their operations, forming partnerships with IT services companies becomes an integral part of their business as they seek to access infrastructure services that create continuous value.

CGI is a recognized leader in satisfying clients' business objectives. CGI combines robust technology management capabilities with quality processes and flexible global delivery options to create and manage technology infrastructures that address clients' top concerns.

With CGI, clients' IT environments are more reliable and secure, and quickly adapt to changing business demands. In addition, clients are better able to comply with ever-changing rules and regulations while controlling costs and making smart investments for the future. And through the greening of our data centers, clients benefit from CGI's ability to continually lower operating costs and reduce our carbon footprint, which improves clients' bottom lines and affirms their corporate social responsibility commitments.

CGI has full IT infrastructure management capabilities, from data centers to IT equipment, allowing clients to delegate entire or partial responsibility for their IT functions. Our worldwide delivery capability and state-of-the-art technology infrastructure allow us to offer clients the optimal combination of onsite and offsite outsourcing service delivery.

Our top priority: enabling CIOS to deliver cost-effective business solutions

Our vision is simple: to enable CIOs to deliver timely, reliable and cost-effective business solutions to their organizations. CGI's green data centers are equipped to handle the ever-changing mission that IT plays in an enterprise business plan. CGI understands the challenges facing operating data centers - from capability and capacity to power and cooling, footprint constraints, automation and service provisioning. CGI's annual multi-million dollar investment program ensures that your business has access to best-in-class IT infrastructure services delivered from world-class facilities.

Through our global network of infrastructure services centers, CGI provides clients with a choice of locations based on a number of factors such as regulatory requirements, business proximity, functional use (high availability, production, disaster recovery), and best cost/delivery capabilities, to name just a few.

CGI is an industry leader in data center services that achieve the highest levels of information availability and protection to support your critical business applications.

Energy efficiency

Through access to continuous supplies of green energy, CGI ensures you are never left in the dark.

CGI's main data centers are compliant with best-in-class standards outlined by the Uptime Institute, which measures the reliance of the electromechanical supply. Redundant capacity components and multiple independent distribution paths provide a continuous energy source to all critical equipment. IT equipment is dual powered and installed in compatibility with the topology of the site's architecture. Data centers are located across multiple electric grids and each site is fully equipped with generators, which provide continuous operation in the event of a large scale blackout.
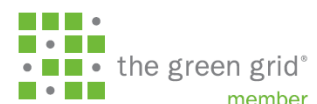
CGI data center management teams implement efficient approaches to power conservation. Our ongoing data center electromechanical improvement program has significantly reduced our carbon emissions by combining methods, processes and new energy-focused solutions for power and cooling efficiency.

For instance, the use of free air cooling technology allows our Canadian data centers to use the outside air in the winter months to provide cooling instead of power generated air conditioning units. Through our network of infrastructure services centers, we have the ability to use the processing power of our data centers located in the province of Quebec, Canada, which take advantage of the abundance of low-cost renewable hydro-electricity available in this large energy producing province.

COMMITTED TO THE RESPONSIBLE USE OF ENERGY

CGI's business model is strongly oriented toward sustainable development. We believe that our clients benefit from our commitment to "green IT," notably in the form of significant savings on energy costs. We have taken action to translate that commitment into concrete results. CGI's data centers have undergone large-scale transformation significantly increasing the level of efficiency in energy consumption through state-othe-art technologies such as those that use free cooling.

CGI's Energy Board orients projects around the "greening" of our facilities, which includes such techniques as raised floor, lighting controls and cooling retrofits. We notably promote and implement server virtualization and consolidation and use modern UPS batteries that are fully recyclable and cadmium free. Use of innovative, green and renewable energy resources enable us to significantly reduce our energy consumption and carbon emissions.

the green grid® member

CGI is part of a global consortium of leaders promoting energy efficient data centers.

Key features

- By leveraging local climates and utilizing chilled loop and free cooling strategies, CGI has decreased energy consumption on data center cooling. The utilization of dual air, cooled split type screw chillers provides N+1 redundancy. This use of innovative, green, renewable energy resources enables CGI to significantly reduce its demand for electricity.

- Raised floor environments are monitored 24x7 by state-of-the-art digital video recording equipment with a proven audited history recall. These recordings are stored on RAID arrays in excess of three months. Additional protection systems are incorporated, such as motion sensors and uniformed security guards.

- CGI's heightened sense of security includes proven techniques such as the use of mantraps, bullet proof film, magnetic swipes and biometric readers.

- Fire protection systems are installed to protect the facilities from fire. Photoelectric and heat detection equipment both need to be tripped before engaging a zoned pre-action sprinkler system. Detection systems are monitored internally and externally by private monitoring companies and local fire departments. In addition, facilities use under floor water detection.

- All systems are protected by service level agreements and are maintained and reviewed for upgrades on an ongoing basis.

- Environmental monitoring systems are in place to continuously measure power utilization at the rack/server level to ensure power consumption and heat emissions are managed and adjusted accordingly. Additional environmental and health systems and policies contribute to reducing electricity demand and consequently lower emissions of air pollutants and greenhouse gases.

Compliance with the highest quality standards

CGI's data centers are regularly audited for CICA 5970 and SAS 70 compliance and CGI's outsourcing clients are governed by the SAS70 Type II / CICA Audit Requirements. These sets of requirements define professional standards used by independent auditors to rigorously assess the internal controls of service organizations.

CGI uses the industry standard ITIL® based processes and tools, which provide a cohesive set of best practices for IT services operations. This enables us to meet a wide range of client requirements, provide quality services and value, and manage a variety of contracted service levels. It also allows CGI to provide the appropriate level of IT at the right cost to support the needs and demands of the business.

CGI's Energy Board ensures that new equipment purchased through our data center modernization program, complies with energy efficiency regulations and certifications.

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DATA CENTER PHYSICAL SECURITY BEST PRACTICES

CGI's data center buildings have "neutral" facades, neither advertising their function nor any company name. The sites are guarded and monitored on a 24x7x365 basis. As a general policy and due to the remote administration of IT equipment,

physical presence within raised floor/IT rooms is kept to a minimum. All access points to the data centers outside and inside the buildings are under video surveillance and multiple controls are in place. Accesses are monitored and logged and every person entering a facility must be identified and have specific access grants. Data center staff and security guards must submit to background checks before being accepted. Non fully authorized personnel must be accompanied by internal staff within restricted areas. Mantraps are systematically positioned at main entrances for restricted areas within buildings.

Proven capabilities with a global reach

With more than 30 years of experience in managing secure and efficient infrastructure services centers for both enterprises and governments, CGI is committed to delivery excellence. We deliver cost-effective business solutions that contribute to clients' bottom lines, adhere to the highest quality and security standards, and apply green IT best practices.

Our data center capabilities include:

- 24x7x365 mission-critical operational focus
- Over 120,000 square feet of raised floor capacity
- High capacity, optical mesh network between many centers
- Automated monitoring and management functions supported by ITIL processes
- Energy management system to monitor power consumption
- SAS 70 and CICA 5970 audits
- ISO 9001 certification

CGI's infrastructure services centers are located in the following locations, taking advantage of onshore, nearshore and offshore locations to offer the optimal combination of expertise, proximity and value.

Proven Capabilities with a global reach:

AMERICAS	EUROPE		ASIA
Canada	Finland	Portugal	Australia
USA	France	Spain	
Brazil	Germany	Sweden	
	Netherlands	UK	
	Norway		

CGI - RECOGNIZED IN DATA CENTER SERVICES

CGI received a "strong positive" rating within Gartner's 2010 "MarketScope for Data Center Outsourcing, North America" research report.* (Gartner, Inc. MarketScope for Data Center Outsourcing, North America, R. T. Matlus, W. Maurer, March 10, 2010)

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CGI's Key Green IT Initiatives

Reduced power consumption

- Smart energy procurement at a corporate level, focus on renewable energy contracts

- New DC target at PUE 1,2

- Dynamic design of UPS systems, increased utilization and efficiency level

- UPS are up to 94% efficient to support the IT Infrastructure

- Use low-power lamps and lighting sectors

Efficient Cooling

- Air management for optimizing the airflow, with intelligent fans close to IT source

- DC temperature reviews against IT allowance (24 degrees in the room)

- "Free Cooling" function in Chillers, starts when outside temperature is below 18 degrees.

- Use of Sea Water / Recycled Water and reuse of heat into office buildings where applicable

- Cooling the IT equipment within the racks (high density racks, with their own inbuilt cooling facilities - ODIS Smart Cooling)

- CRACs (Computer Room Air Conditioning) more efficient and environmentally friendly (consumption reduction up to 50%)

Server virtualization:

- Old energy- consuming Intel servers has been virtualized for several clients resulting in reduction of energy-consuming hardware.

Storage virtualization:

- Storage de-duplication has been widely adopted as a technology in file serving environments. File server environments has been consolidated to a shared file serving platform resulting in 15:1 consolidation and decommissioning of servers.

- Reduction of disk drives and server hardware will significantly lower our energy consumption in file serving environments.

Hardware Disposal

- Specialist Environmental Friendly Disposal

CGI AT A GLANCE

CGI is a global IT and business process services provider delivering business consulting, systems integration and outsourcing services. With 68000 professionals operating in 400 offices in 40 countries, CGI fosters local accountability for client success while bringing global delivery capabilities to clients' front doors. CGI applies a disciplined and creative approach to achieve an industry-leading track record of on-time, on-budget projects and to help clients leverage current investments while adopting new technology and business strategies. As a result of this approach, our average client satisfaction score for the past 10 years has measured consistently higher than 9 out of 10. In technology management, CGI's 4,800 infrastructure services experts help more than 180 CIOs achieve the flexibility, speed, scalability and efficiency required to deliver valuable business solutions. CGI offers the complete set of capabilities, allowing clients to delegate entire or partial responsibility for their IT functions.

These include:

- Backup data protection services

- Cloud computing

- Data center services

- Database services

- Desktop virtualization

- Disaster recovery services

- IT security and compliance services

- Network services

- Printing and imaging facilities

- Server virtualization

- Service management

- Technical service desk / help desk services

- Green IT power management services

For detailed information on our technology management services, please visit **cgi.com/tm.**

CGI

cgi.com

With 68,000 professionals operating in 400 offices across 40 countries, CGI fosters local accountability for client success while bringing global delivery capabilities to clients' front doors.

Founded in 1976, CGI applies a disciplined delivery approach that has achieved an industry-leading track record of on-time, on-budget projects. Our high-quality business consulting, systems integration and outsourcing services help clients leverage current investments while adopting new technology and business strategies that achieve top and bottom line results.

As a demonstration of our commitment, our average client satisfaction score for the past 10 years has measured consistently higher than 9 out of 10.